

CLAIMS

I claim:

1. A golf tee setting device comprising:
 - a. means for inserting a golf tee in the device;
 - b. means for retaining the golf tee head in the device;
 - c. means for selecting a tee head height above the ground for the golf tee to be inserted;
 - d. means for fitting a golf ball to the device;
 - e. means for gripping the device with the golf ball in the heel of the hand such that force may be applied to the golf tee; and
 - f. means for releasing the golf tee from the device.
2. The golf tee setting device of claim 1 further comprising the device has a bottom, a top and a side of generally circular shape, the means for inserting a golf tee in the device is a golf tee chamber opening arranged in the bottom of the device.
3. The golf tee setting device of claim 2 further comprising the means for retaining the golf tee head in the device is a convex tee chamber upper surface and a multitude of ball bearing surfaces penetrating into the tee chamber.
4. The golf tee setting device of claim 3 further comprising the means for selecting a tee head height above the ground for the golf tee to be inserted is a multitude of bases of differing thickness, one of which is selected to provide the desired tee chamber location above the device bottom.
5. The golf tee setting device of claim 3 further comprising the means for selecting a tee head height above the ground for the golf tee to be inserted is means for adjusting the tee chamber location distance from the device bottom.
6. The golf tee setting device of claim 3 further comprising the means for fitting a golf ball to the device is a concave top surface.
7. The golf tee setting device of claim 6 further comprising the means for gripping the device with the golf ball in the heel of the hand is opposing concavities in the device side wherein two fingers exert force on the device to press the golf ball into the heel of the hand.
8. The golf tee setting device of claim 7 further comprising the means for releasing the golf tee from the device is a means for moving the ball bearing surfaces from the tee chamber.

9. The golf tee setting device of claim 8 further comprising the means for moving the ball bearing surfaces from the tee chamber is operated by exerting force on the device with two fingers and exerting force on a golf ball fitted to the device by exerting force on the golf ball with the palm of the hand.
10. A golf tee-setting device to hold, insert into the ground until the device bottom contacts the ground, and release the golf tee, leaving the tee at a predetermined selected height comprising:
 - a. A main body configured with an outer surface, a tee-insertion end, an operating knob attachment end, and a multiplicity of through-wall ball bearing raceways, the tee-insertion end with an opening to a tee chamber arranged such that a tee may be inserted in the body tee chamber, the operating knob attachment end arranged such that an operating knob may be attached to the body, the ball bearing raceways arranged such that a ball bearing inserted in the raceway on the outside surface of the body, and contacting the raceway walls will extend into the body tee-insertion end opening;
 - b. a multiplicity of ball bearings arranged in the ball bearing raceways;
 - c. a tee hold-release sleeve with an outer surface, a lower surface, a bottom hole, a bottom hole internal surface, and ball bearing retention means, the bottom hole arranged such that the body may be slidably inserted into the sleeve, the ball bearings retained in the body ball bearing raceways by contact with the sleeve when the body is fully inserted in the sleeve;
 - d. means for moving the body partially out of the sleeve and means for returning the body to the fully inserted position in the sleeve;
 - e. means for motion of the ball bearings when the body is partially removed from the sleeve such that a tee head inserted into the tee chamber will contact and be retained in the hole by the ball bearings with the body fully inserted and will disconnect from the ball bearings when the body is partially out of the sleeve; and
 - f. means for adjusting the tee chamber location above the device bottom arranged such that a tee inserted into and retained in the body will extend from the device a predetermined adjustable distance wherein the tee may be inserted into the ground, the body moved partially out of the sleeve, disconnecting the device from the tee, and the

device removed leaving the tee head the predetermined and selected distance from the ground.

11. The golf tee-setting device to hold, insert into the ground at a predetermined and selected tee head height above the ground, and release the golf tee, leaving the tee at the predetermined selected height as in claim 10 further comprising the means for moving the body partially out of the sleeve and means for returning the body to the fully inserted position in the sleeve is comprised of two opposing gripping concavities arranged on the sleeve and body, a beveled nut and spring retainer knob removably attached to the body knob attachment end and a spring arranged between the knob and the sleeve, the knob arranged such that a golf ball may be fit to the beveled nut and spring retainer such that the golf ball is held in the palm of the hand with the tee-setting device held by the gripping concavities with two fingers of the same hand wherein the fingers apply force to the sleeve while the palm of the hand applies force to the body moving the body out of the sleeve and compressing the spring, and the spring returns the body to the fully inserted position when the finger and hand pressure is released.
12. The golf tee-setting device to hold, insert into the ground at a predetermined and selected tee head height above the ground, and release the golf tee, leaving the tee at the predetermined selected height as in claim 11 further comprising the means for motion of the ball bearings when the body is partially removed from the sleeve is comprised of a beveled wall through opening in the sleeve arranged from the outer surface to the hole inner surface such that when the body is fully inserted in the sleeve, the beveled wall of the opening contacts the ball bearings to retain them in the body bearing raceway, and the motion of the body out of the sleeve brings the sleeve opening beveled wall away from the ball bearings such that they may move in the body bearing raceway.
13. The golf tee-setting device to hold, insert into the ground at a predetermined and selected tee head height above the ground, and release the golf tee, leaving the tee at the predetermined selected height as in claim 12 further comprising the means for adjusting the tee chamber location is comprised of a multiplicity of bases each with an upper surface and a lower surface and each with different distances between the upper and lower surfaces, one base selected and removably attached to the body such that a tee inserted into and retained in the body will extend from the base lower surface the selected

predetermined adjustable distance determined by the distance between the base upper and lower surfaces of the selected base wherein the tee may be inserted into the ground and the device removed leaving the tee head the predetermined and selected distance from the ground.

14. The golf tee-setting device to hold, insert into the ground at a predetermined and selected tee head height above the ground, and release the golf tee, leaving the tee at the predetermined selected height as in claim 12 further comprising:
 - a. the means for adjusting the tee chamber location is an adjustable base comprising a height adjustment sleeve, a height adjustment insert, a height adjustment mechanism spring, and a multiplicity of assembly screws with a head portion and a threaded portion;
 - b. the height adjustment sleeve with a tee insertion end, a height adjustment insert installation end, and a cylindrical side, the tee insertion end arranged as a hollow cylinder with an outer surface and an inner surface and a central flat surface projection containing a spring retaining hole arranged to connect with the tee insertion end hole, the circumference of the flat surface forming a height adjustment groove around the circumference of the insert opening with an inner side and an outer side, the groove outer side with a multiplicity of assembly screw installation through holes arranged between the cylindrical sleeve side and the groove outer side, and the groove inner side with threaded holes arranged opposite the installation holes, wherein an assembly screw may be inserted into the groove through the installation through hole and removably attached to the threaded hole;
 - c. the height adjustment insert having an upper end, a lower end, a cylindrical outer surface and an outer surface extension extending in the downward direction from the cylindrical outer surface, and with a helical groove in the outer surface extension, the insert arranged such that it may be removably and rotatably inserted into the height adjustment sleeve wherein the insert is contained within the height adjustment sleeve insert opening;
 - d. the helical groove in the insert cylindrical side surface arranged with a smooth contour upper surface and a corrugated contour lower surface, the groove extending from the helical extension portion outer surface through to the inner surface and arranged such

that the insert may be removably attached to the sleeve by the assembly screws, the screw heads arranged such that the sleeve may be rotated relative to the insert wherein the screw heads move in the insert helical groove such that the base thickness may be increased by rotation in one direction and decreased by rotation in the opposite direction; and

- e. the height adjustment mechanism spring arranged such that a tee head may pass through the center of the spring and arranged in the sleeve spring retaining hole such that the spring provides an upward force on the insert such that the spring force maintains contact of the helical groove corrugated surface with the assembly screw heads and the corrugation groove lower surface provides resistance to rotation of the sleeve relative to the insert wherein the resistance retains the base thickness adjustment until the sleeve is rotated with sufficient force to overcome this resistance and the base thickness is changed.

15. The golf tee-setting device to hold, insert into the ground at a predetermined and selected tee head height above the ground, and release the golf tee, leaving the tee at the predetermined selected height as in claim 10 further comprising the means for moving the body partially out of the sleeve and means for returning the body to the fully inserted position in the sleeve is two opposing gripping concavities arranged on the sleeve, a beveled nut and spring retainer knob removably attached to the body knob attachment end and a spring arranged between the knob and the sleeve, the knob arranged such that a golf ball may be fit to the beveled nut and spring retainer such that the golf ball is held in the palm of the hand with the tee-setting device held by the gripping concavities with two fingers of the same hand wherein the fingers apply force to the sleeve while the palm of the hand applies force to the body moving the body out of the sleeve and compressing the spring, and the spring returns the body to the fully inserted position when the finger and palm pressure is released.

16. The golf tee-setting device to hold, insert into the ground at a predetermined and selected tee head height above the ground, and release the golf tee, leaving the tee at the predetermined selected height as in claim 15 further comprising the means for motion of the ball bearings when the body is partially removed from the sleeve is comprised of a body spacer washer with an upper surface, a lower surface, an outer surface, and an inner

surface arranged such that the body outer surface may be inserted within the washer inner surface and a multiplicity of holes arranged between the inner and outer surfaces, the body outer surface with a multiplicity of threaded attachment holes arranged such that the body spacer washer is removably attached to the body outer surface with a multiplicity of assembly screws with a head portion and a threaded portion wherein the sleeve and washer contact the ball bearings arranged in the ball bearing raceways, the washer upper surface also contacting the sleeve lower surface when the body is fully inserted into the sleeve such that the bearings are fully inserted into the raceways and when the body is partially removed from the sleeve, the washer upper surface moves away from the sleeve lower surface forming an opening arranged such that the bearings may move in the body bearing raceway.

17. The golf tee-setting device to hold, insert into the ground at a predetermined and selected tee head height above the ground, and release the golf tee, leaving the tee at the predetermined selected height as in claim 16 further comprising the means for adjustment of the tee chamber location is:
 - a. a height adjustment sleeve, a height adjustment top cap, a bottom base cover, a height adjustment sleeve cover, and a height adjustment spring;
 - b. the height adjustment sleeve substantially cylindrical with an upper end and a lower end, an outer surface and an inner surface, the outside surface containing attachment threads adjacent to the upper and lower ends, a helical groove in the height adjustment sleeve outer surface through the outer and inner surfaces and configured with an smooth contour upper surface and a corrugated contour lower surface, the groove extending from adjacent to the lower end threads to adjacent to the upper end threads, the inner surface arranged such that the device body spacer washer may be inserted in the height adjustment sleeve;
 - c. the height adjustment top cap with an upper surface containing an opening arranged such that the hold-release sleeve may be inserted in the opening, a lower surface with an opening arranged with internal threads wherein the top cap may be removable attached to the height adjustment sleeve upper end threads;
 - d. the bottom base cover with an upper surface containing an opening arranged with internal threads wherein the bottom base cover may be removable attached to the

height adjustment sleeve lower end threads, the lower surface arranged with an opening wherein a golf tee may be inserted in the opening;

- e. the height adjustment sleeve cover substantially cylindrical with an inner surface, an outer surface, a top end and bottom end, the inner surface arranged such that the sleeve may be inserted in the sleeve cover, the top end arranged such that it may be inserted in the top cap lower surface opening, the bottom end arranged such that it may be inserted in the base cover upper opening; and
 - f. the height adjustment spring with an inner coil diameter an outer coil diameter, a lower end, and a upper end and arranged such that the tee hold-release sleeve outer surface may be inserted within the inner coil diameter such that and the outer coil diameter may be inserted within the height adjustment sleeve inner surface wherein the body spacer washer attachment screws are arranged such that the screw heads are contained within the height adjustment sleeve helical groove and the spring is arranged such that the spring is contained within the height adjustment sleeve, the spring lower end contacts the body spacer washer upper surface, and the spring upper end contacts the height adjustment top cap such that the spring is compressed between the top cap and body spacer washer, the spring force maintaining contact of the sleeve helical groove corrugated contour lower surface with the assembly screw head such that the corrugated groove lower surface provides resistance to rotation of the top cap, sleeve, bottom base cover and sleeve cover relative to the body and hold-release sleeve wherein the resistance retains the tee chamber location adjustment until the sleeve is rotated with sufficient force to overcome this resistance such that the tee chamber location is changed.
18. A method of inserting a golf tee into the ground comprising:
- a. adjusting the tee-setting device to the desired tee head height above the ground;
 - b. gripping the tee-setting device in a hand with the device held between 2 fingers and the palm of the hand such that force may be applied to the device by the palm of the hand;
 - c. inserting the golf tee into the golf tee-setting device;
 - d. inserting the golf tee into the ground using force applied between 2 fingers and the heel of the hand until the device touches the ground; and

- e. applying force on the device using 2 fingers and the palm of the hand on the device such that the device is removed from the inserted golf tee.

19. The method of inserting a golf tee into the ground of claim 18 further comprising:

- a. placing a golf ball on the tee-setting device between steps a. and b;
- b. performing steps b. and e. by applying force on the device using 2 fingers on the device and the palm of the hand on the ball; and
- c. performing step d. using 2 fingers on the device and the heel of the hand on the ball.